REMARKS

Claims 1-9 are pending in the above application, all of which stand rejected. Applicants thank the Examiner for consideration of the amendment and remarks in the prior response, and appreciate the clear description of the bases for the pending rejections.

35 USC 102 rejection of Claims 1 and 4

As indicated in the prior Office Action, claims 1 and 4 remain rejected under 35 U.S.C. 102(b) as being anticipated by Wright (U.S. Patent No. 5,212,750). Applicants respectfully traverse the Examiner's rejection and request reconsideration in view of the following remarks.

Applicants claim in claim 1, in relevant part:

> ... a base ring having a leading edge, wherein the at least one reinforcement fiber is secured over said leading edge and underneath said crimp ring ... (emphasis added)

Applicants respectfully submit that Wright does not secure the fiber over a leading edge and underneath a crimp ring as claimed. In fact, Wright teaches away from this construction – as Wright routes the fiber over the trailing edge of what the Examiner points to as a base ring. Wright recognizes the problem addressed by the claimed invention, but addresses it in a substantially different manner. As described in Wright at column 7, lines 22-34, Wright provides a strain relief ring to ensure the reinforcing fibers are not damaged, but due to Applicants' invention, such a strain relief ring is not present in Applicants' design. As further described in Wright (beginning at line 27), after passing over the strain relief ring, the fibers pass over the rear edge (line 31) of the tubular projection (the Examiner recites the tubular projection as a base ring). As indicated above, because Wright uses the trailing edge (not the leading edge), the strain relief ring is required. Consequently, Wright requires a more complicated, expensive and considerably more difficult design to assemble than that claimed by Applicants.

One skilled in the art appreciates that the rear edge of Wright over which the fiber is routed is not a leading edge as claimed by applicants, both by common usage of the term, the language of Wright, and in view of Applicants' Specification and figures. Accordingly, a prima facie case has not been made under 35 USC 102(b) and this rejection should be withdrawn.

35 USC 103(a) rejection of Claims 2, 3, and 5-9

As indicated in the prior Office Action, claims 2, 3, and 5-9 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Wright (U.S. Patent No. 5,212,750) in view of Higdon et al (Mechanics on Materials). Applicants respectfully traverse this rejection.

For the sake of brevity and without disclaimer, Applicants will only address the fundamental issues with respect to these claims.

Applicants first reiterate the arguments presented above that Wright fails to disclose the claimed invention of claims 1 and 4, but which apply to each of the independent claims and the claims depending therefrom. Accordingly, not all elements of the claimed invention are taught or suggested by the references and therefore a prima facie case is not made. Further, Applicants respectfully submit that the Higdon et al. does not disclose a method for determining the critical bend radius as in the present invention, for the reasons described previously and clarified as set forth below.

Higdon et al. describes a method for calculating the elastic deflection and strain of a beam or fiber when a load is applied by knowing the dimensions of the beam, the load and the elastic modulus of the material; not the radius at which the fiber will shear. In the Specification, in the paragraph numbered 21, Applicants define the critical bending point radius R1 as "the maximum radius of curvature allowable for the reinforcement fiber 14 before it tends to shear". In Wright, the elastic modulus is a characteristic describing the resistance of the material to deflection under an applied strain. The elastic modulus is determined by plotting the stress strain curve for a material and taking a slope of the linear (elastic) portion of the curve. Thus, using

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Higdon et al., one can calculate what the stress will be on the fiber at a given load on the elastic portion of the stress strain curve, but not when it would tend to shear. In fact Higdon teaches away from this criteria – as the Examiner indicates, Hidgon instructs one to calculate tensile stress, but not to calculate a radius at which the fiber would tend to shear as claimed.

As noted previously, Applicants invention requires one to know the breaking stress of the material, which Higdon does not teach or suggest. As the references provide no information on how to determine the tensile strength, it does not teach all of the claim limitations of the present invention as described in claims 2, 3, and 5-9.

As the references, alone or in combination, teaches the claimed limitations securing the reinforcement fiber over a leading edge and underneath said crimp ring or the method for determining the minimum bend radius as a function of the tensile strength of the reinforcement fibers, as required by MPEP 2142 and 2143, the Applicants respectfully suggest that the Examiner's rejection of claims 2, 3 and 5-9 is improper. Reconsideration of claims 2, 3 and 5-9 is thus respectfully requested.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-9 are allowable. The Examiner is invited to telephone the Applicants' undersigned attorney at (740) 321-7167 if any unresolved matters remain.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Previously Amended) A premise cable connector for aiding in coupling a premise cable to an adapter, wherein the premise cable has at least one optical fiber and at least one reinforcement fiber, the premise cable connector comprising:

a crimp ring; and

a base ring having a leading edge, wherein the at least one reinforcement fiber is secured over said leading edge and underneath said crimp ring such that the radius of curvature of the at least one reinforcement fiber is greater than or equal to a critical bending point radius of the at least one reinforcement fiber, wherein said crimp ring is coupled without reducing the load bearing strength of the at least one reinforcement fiber.

2. (original) The premise cable connector of claim 1, wherein said critical bending point radius is a function of the diameter of said at least one reinforcement fiber, the elastic modulus of said as least one reinforcement fiber, and the tensile strength of said at least one reinforcement fiber.

3. (original) The premise cable connector of claim 2, wherein said critical bending point radius is calculated by multiplying the diameter of said at least one reinforcement fiber by the elastic modulus of said at least one reinforcement fiber and dividing the result by two times the tensile strength of said at least one reinforcement fiber.

4. (original) The premise cable connector of claim 1, wherein the radius of curvature of said leading edge of said base ring is greater than or equal to said critical bending point radius of the at least one reinforcement fiber.

5. (original) The premise cable connector of claim 3, wherein the radius of curvature of said leading edge of said base ring is greater than or equal to said critical bending point radius of the at least one reinforcement fiber.

6. (original) A method for coupling a premise cable having at least one reinforcing fiber and at least one optical fiber to an adapter using a crimp style connector without reducing the load bearing strength of the at least one reinforcement fibers, the method comprising the steps of:

calculating a critical bending point radius of the at least one reinforcement fiber;

selecting a base ring having a leading edge having a first radius of curvature, wherein said first radius of curvature is greater than or equal to said calculated critical bending point radius;

securing the at least one reinforcement fiber around a leading edge of said base ring; and

crimping a crimp ring over said base ring.

7. (original) The method of claim 6, wherein the step of calculating a critical bending point radius of the at least one reinforcement fiber comprises the steps of:

determining the diameter of said at least one reinforcement fiber;

determining the tensile strength of said at least one reinforcement fiber;

determining the elastic modulus of said at least one reinforcement fiber; and

calculating a critical bending point radius of the at least one reinforcement fiber by multiplying the diameter of said at least one reinforcement fiber by the elastic modulus of said at least one reinforcement

fiber and dividing the result by two times the tensile strength of said at least one reinforcement fiber.

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8. (original) A method for coupling a premise cable having at least one reinforcing fiber and at least one optical fiber to an adapter using a crimp style connector without reducing the load bearing strength of the at least one reinforcement fibers, the method comprising the steps of:

selecting a base ring having a leading edge having a first radius of curvature;

selecting a reinforcement fiber having a critical bending point radius that is less than or equal to said first radius of curvature;

securing the at least one reinforcement fiber around a leading edge of said base ring; and

crimping a crimp ring over said base ring.

9. (original) The method of claim 8, wherein the steps of selecting a reinforcement fiber having a critical bending point radius that is less than or equal to said first radius of curvature and securing the at least one reinforcement fiber around a leading edge of said base ring comprises the steps of:

selecting at least one reinforcement fiber;

determining the diameter of said at least one reinforcement fiber;

determining the tensile strength of said at least one reinforcement fiber;

determining the elastic modulus of said at least one reinforcement fiber; and

calculating a critical bending point radius of the at least one reinforcement fiber by multiplying the diameter of said at least one reinforcement fiber by the elastic modulus of said at least one reinforcement

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fiber and dividing the result by two times the tensile strength of said at least one reinforcement fiber;

comparing said critical bending point radius to said first radius of curvature; and

securing the at least one reinforcement fiber around a leading edge of said base ring when said critical bending point radius is less than or equal to said first radius of curvature.

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